ANKIT GHOSH| PR/11/ME/26/014
INDIAN INSTITUTE OF TECHNOLOGY MADRAS

EDUCATION AND SCHOLASTIC ACHIEVEMENTS

Program	Institute	% / CGPA	Year
B. Tech in Mechanical Engineering	Indian Institute of Technology, Madras	8.1/10.00	2027
Class XII (CBSE)	Rahul International School, Thane	94.8%	2023
Class X (ICSE)	VIBGYOR High School, Mumbai	97.2%	2021

- **Kishore Vaigyanik Protsahan Yojana (KVPY) Fellow** – **Top 1 percentile** national – Awarded by Department of Science and Technology, Govt. Of India – **2023**
- **Ranked** in **Top 0.2%** from over 1 million candidates in **Joint Entrance Examination – Mains,** and an **All India Rank** of **2238** in **IIT – JEE Advanced**. – **2023**
- Placed among **Top 100** in Indian National Junior Science Olympiad, **Top 200** in National Standard Examination for Junior Science by **IAPT**[1] and **HBCSE**[2] – **2020**

PROFESSIONAL EXPERIENCE

Proctor & Gamble – Product Supply Spotlight *(June 2025)*
- Selected in **top 41 from 1000+ applicants** from 5 colleges for the **Proctor & Gamble Product Supply Spotlight Program 2025**
- Gained **structured insights** into process innovation, supply chain dynamics, **and people leadership** in a **high-output environment**
- **Built relationships** with senior P&G leaders through networking events and **case-style simulations on operational challenges**

Mahindra Research Valley – Intern *(May 2025 – June 2025)*

Development and Testing Intern – Part of Thermal Department in Product Development, Automotive Division
- **Diagnosed systemic cooling failures** across 7 proto vehicles, recommendations led to a **15% improvement** in thermal stability
- **Collected and analyzed results** from multi-vehicle testing, **delivering data-backed insights** under tight shared-resource timelines
- **Designed and tested** various iterations for low-temperature coolant loop to eliminate degassing tank, **optimizing space by 5%**

RAFTAR FORMULA RACING

Formula Bharat 2025 National Runners – Up *(Jan 2025)*
- Responsible for **all aerodynamic decisions** and vehicle testing information, also **represented** the team in **VEDC**[3] **finals QnA**
- **Winners** of Statics Award, **2nd** in Dynamics Award for the **EV category** out of **40+ teams** from across India, Sri Lanka and Nepal
- **1st place** in **Engineering Design**, and **Cost and Manufacturing** events, **Winners** of MathWorks Skidpad Simulation Challenge
- **One of only 3 teams** to clear Mechanical Inspection **with a complete Aerodynamic Package**, a first for the team **since 2020**

KEY AREAS OF RESPONSIBILITY

Business Plan *(May 2024 – present)*

Core
- **Recruited** and **mentored 8** 2nd year associates in making **pitch decks, business model canvases** and analyzing various business
- **Increased team efficiency** by 45% via **categorical work allocation** and implemented **exclusive associate training** for learning

Associate
- **Ideated** and planned **a profitable business** revolving around the car for a static event at a **FSAE**[4] **competition** in a **team of 10**
- **Evaluated** the market and business using **data analysis, linear regression, balance sheets**, cash flows and income statements
- Developed an **executable and profitable expansion plan**, strategic partnership, and **a pitch deck** for the fictional company

Aerodynamics & Cooling *(March 2024 – present)*

Design Crew
- **Recruited 4 members** out of **100+ applicants** into the aerodynamics subsystem and **managed** their **task progress** and **learning**
- **Evaluated** various models for testing **aerodynamic performance** and structural stability for **improved correlation** in future design
- Improved subsystem **operational efficiency by 21**% by **ably managing** INR 3L+ budget and creating **detailed design timeline**

Chassis Engineer
- **Overseeing** precise **procurement, manufacturing, and assembly** of all **CFRP**[5] components, strictly **adhering to team timelines**
- **Reduced assembly time by 22%** for more efficient race-day strategies while **ensuring compliance** with competition regulations
- Authored **detailed design and manufacturing reports** to facilitate knowledge transfer in the team, and across FSAE community

ORATORY CLUB

Oratory Contingent Member *(Apr 2024 – present)*

Won accolades while representing IITM at multiple national debates including IITB Debate '24, CUPD '24, DILIMAN Intervarsity '24
- **1st**, Comfiesta JAM'24
- **2nd**, Stella Maris Debate'24
- **3rd**, Pragati Debate'25
- **2nd**, Freshie Shipwreck'24
- **7th Best Novice Speaker** at Christ University PD'24, BLR
- **Judging Panelist for Open Quarter Finals,** BITS Pilani PD'24
- Scouted and **onboarded incoming talents**, to nurture their speaking skills and select them for the **Institute Oratory Contingent**

KEY AREAS OF RESPONSIBILITY

Oratory Club Coordinator *(June 2024 – March 2025)*
- Conducted, and **designed posters** for, over **5 new debating events**, increasing year-round **participation** among students **by 40%**
- **Organized Saarang**[6] **inter-collegiate** eloquence competitions, **handling 1k+ participants** and **coordinating** with **national judges**
- Ensured **seamless execution** of events, throughout the year, by efficiently **managing communications** and **on-ground logistics**

IITMPD Sponsorship & Public Relations Head *(March 2025 – May 2025)*
- **Led a 20-member team** for contacting 100+ companies, **securing sponsorships worth INR 1.5L+** for flagship debate **IITMPD**[7]
- Established **strong digital social media presence** by designing targeted content and posters, increasing **national outreach** by **48%**
- Coordinated **on-ground requirements**, **payments** for **7+ sponsor partners**, and accommodation for **200+ debate participants**

TECHNICAL PROJECTS

AERODYNAMICS & COOLING DESIGN FOR FSAE VEHICLE: Guided by *Prof. Satya Narayanan S, Applied Mechanics, IIT Madras*

Aerodynamic and Structural Design of Front Wing *(June 2024 – August 2024)*
- Engineered a new front wing with **26% higher downforce** by **minimizing flow separation** for improved grip in low-speed corners
- **Improved structural rigidity by 67%** using ANSYS simulations, ensuring rules **compliance** and reliability under loading conditions
- Applied **data-driven optimization** strategies to endplates using **pressure-based clustering** from ANSYS Fluent CFD[8] simulations
- Achieved **19% aerodynamic efficiency gain** and **33% weight reduction** of component, improving lap-times and handling balance

Design of Cooling system *(Oct 2024 – Jan 2025)*
- **Reduced** radiator size by **55%**, eliminated cooling fan by **strategic repositioning** of the radiator, **reducing power requirements**
- **Modeled pressure drops** across cooling loop components using CFD sims and integrated findings into MATLAB for optimization
- Achieved a **5-fold decrease** in effective **computational time** per iteration using a **transformed inlet** condition for boundary setup

Manufacturing of Composite Components *(Nov 2024 – Apr 2025)*
- **Developed programmable toolpath** for 2-axis hotwire, 3-axis milling machine to cut **polystyrene foam molds** for all components
- **Precisely manufactured** more than **20 CFRP parts** for the RFR25 car through careful **hand lay-up** and **vacuum bagging** methods
- **Improved structural rigidity** by replacing aluminum with carbon fiber spars and ribs, while **decreasing weight** in key components

Airfoil Analysis *(March 2025 – Apr 2025)*
- **Enabled informed geometry selection** by simulating 14 airfoils using 30+ 2D CFD cases to **compare aerodynamic performance**
- Investigated **various geometric parameters** to **understand their influence** on **flow behavior**, using iterative ANSYS Fluent studies
- Developed **data-driven optimization** strategies to **enhance aerodynamic performance by 12%,** across different vehicle sections

Course: ME2400 – Measurements, Instrumentation and Control: Guided by *Dr. Sushanta Panigrahi, Mechanical Engineering*

Design of Anti-Sleep Alarm System *(March 2025 – Apr 2025)*
- **Led** a **group of 6** to develop and assemble **Sleep Detection glasses**, to help prevent accidents **by identifying driver fatigue signs**
- **Designed** and **3D-printed** custom ESP circuit mounts for **weight** and **space optimization**, ensuring **rigidity** and **easy assembly**
- **Programmed** custom Arduino circuit board to **simulate vehicle dashboard**, integrating alerts and motor control for **emergencies**

EXTRA-CURRICULAR ACTIVITIES

Music
- **Rockschool Level 2 certification** in Popular Music Performance, having passed **Grade 1-5 Exams** for playing **Electric Guitar**
- **Performed live on stage** as part of different bands at **IITM Freshers' Night'23**, and Music Night'23, to an **audience of 1000+**

[1] – Indian Association of Physics Teacher [2] – Homi Bhabha Centre for Science Education [3] – Vehicle Engineering Design Competition [4] – Formula Society of Automotive Engineers
[5] – Carbon Fiber Reinforced Polymer [6] – IITM's Cultural Fest [7] – IIT Madras Parliamentary Debate [8] – Computational Fluid Dynamics